

Name: _____

Agricultural Construction

Directions:

Evaluate the student by checking the appropriate number or letter to indicate the degree of competency. The rating for each task should reflect **employability readiness** rather than the grades given in class.

Rating Scale:

- 3 Mastered** – can work independently with no supervision
- 2 Requires Supervision** – can perform job completely with limited supervision
- 1 Not Mastered** – requires instruction and close supervision
- N No Exposure** – no experience or knowledge in this area

NOTE: The code in parentheses is the competency identification number used in computerized management systems.

NOTE: All competencies involving safety require a Number 3 rating.

NOTE: **Pass destruction test.

3	2	1	N	
				1. The student has mastered the related competencies of Agriculture Science I.
				2. The student has mastered the related competencies of Agriculture Science II.

3	2	1	N	A. Arc Welding	Notes:
				1. List the safety procedures for arc welding (A001)	
				2. Identify the various types of metals and their properties (A002)	
				3. Prepare metals for welding by cutting, grinding, and/or cleaning (A003)	
				4. Weld in all positions with stick welder [Shielded Metal Arc Welding](A004)	
				** a. Weld in flat position using 6010 and 7018	
				** b. Weld in horizontal position using 6010, 6011, and 7018	
				** c. Weld in vertical up position using 6010, 6011, and 7018	
				** d. Weld in vertical down position using 6010, 6011, and 7018	
				** e. Weld in overhead position using 6010, 6011, and 7018	
				5. Weld in all positions with MIG welder [Gas Metal Arc Welding] (A005)	
				** a. Weld in flat position using E-70S-3 and E-71S-3	
				** b. Weld in vertical position using E-70S-3 and E-71S-3	
				** c. Weld in horizontal position using E-70S-3 and E-71S-3	
				d. Weld in overhead position using E-70S-3 and E-71S-3	
				6. Weld in all positions with TIG welder [Gas Tungsten Arc welding]	
				a. Weld in flat position	
				b. Weld in vertical position	
				c. Weld in horizontal position	
				d. Weld in overhead position	
				7. Hardsurface areas where extensive wear may occur (A006)	
				8. Weld cast iron (A007)	

					9. Weld pipe (A008)	
					Other:	

3	2	1	N	B. Oxy-Gas and Other Cutting/Welding Processes	Notes:
				1. List the safety procedures required for using oxy-acetylene equipment (B001)	
				2. Perform in order the complete procedure for lighting, adjusting the flame and shutdown of the torch (B002)	
				3. Select appropriate tip for the job to be performed (B010)	
				4. Weld in all positions with oxy-gas welder (B003) <ul style="list-style-type: none"> a. Weld in flat position b. Weld in horizontal position c. Weld in vertical position d. Weld in overhead position 	
				5. Perform a hardsurfacing operation (B004)	
				6. Weld cast iron using rod and flux (B005)	
				7. Perform a braze weld operation (B006)	
				8. Perform cutting with oxy-gas (B007)	
				9. Perform cutting with arc-air (B008)	
				10. Cut using the motorized torch (B009)	
				11. Cut metal using air carbon-arc and plasma arc cutting processes	
				Other:	

3	2	1	N	C. Woodworking	Notes:
				1. Identify common woods used in agricultural construction (C001)	
				2. Select the proper fastener for a specific job (C002)	
				3. List the actual and normal dimensions of common construction lumber (C003)	
				4. Use hand woodworking tools (C004) <ul style="list-style-type: none"> a. _____ b. _____ c. _____ d. _____ e. _____ f. _____ g. _____ h. _____ i. _____ 	
				5. Use power woodworking tools (C005) <ul style="list-style-type: none"> a. _____ b. _____ c. _____ d. _____ e. _____ f. _____ 	

				g. _____ h. _____ i. _____	
				6. Select preservatives (C006)	
				Other:	

3	2	1	N	D. Metals	Notes:
				1. Select metals by design and strength (D001)	
				2. Explain how construction metal is dimensioned (D002)	
				3. Remove stress risers (D003)	
				4. Identify common metal fasteners (D004)	
				5. Identify the hardness grade of a bolt (D005)	
				6. Control heat distortion of metals (D006)	
				7. Assemble work using proper locks and fasteners (D007)	
				8. Use heat to shape metals (D008)	
				9. Use tap and die set to do threading (D009)	
				10. List steps used in tempering, annealing, hardening, wrinkle bending, normalizing, and welding to control crystallization (D010)	
				Other:	

3	2	1	N	E. Finishing	Notes:
				1. Prepare surfaces for finishing (E001)	
				2. Select the primer to use before painting the surface (E002)	
				3. Select the paint to use in the finishing operation (E003)	
				4. List the steps for cleanup after finishing operation is complete (E004)	
				Other:	

3	2	1	N	F. Project Construction	Notes:
				1. List the safety procedures for project construction (F001)	
				2. Select project and design a project plan (F002)	
				3. Develop a bill of materials and a projected cost list (F003)	
				4. List tools needed to complete a project and list safety precautions (F004)	
				5. Determine the time frame for completion of a project (F005)	
				6. Interpret a project construction plan (F006)	
				7. Lay out and prepare materials for cutting (F007)	

				8. Determine construction design for proper hitching and balancing (F008)	
				9. Determine construction design for legal specifications: width, length, weight, etc. (F009)	
				10. Identify and correct project defects by approved methods (F010)	
				11. Perform assembly procedures (F011)	
				12. Describe why a project should have a finish (F012)	
				13. Determine actual cost of materials and labor for project (F013)	
				14. Use hand and power tools in completing a project (F014) a. _____ b. _____ c. _____ d. _____ e. _____ f. _____ g. _____ h. _____ i. _____ j. _____ k. _____ l. _____ m. _____ n. _____ o. _____	
				Other:	

3	2	1	N	Leadership & Personal Development for Advanced Students (Leadership Duty C)	Notes:
				1. Develop a resume and complete a job application (C001)	
				2. Develop a plan for finding a job (C002)	
				3. Describe how to apply and interview for a job (C003)	
				4. Describe the characteristics needed to develop desirable personal and social skills (C004)	
				5. Describe the importance and process of developing better human relationships (C005)	
				Other:	

3	2	1	N	Using the Missouri Farm Business Record Book (SAE Duty D)	Notes:
				1. Describe the two types of accounting methods (D001)	
				2. Complete the forms needed to open the Missouri Farm Business Record Book (D002)	
				3. Develop a projected cash flow (D003)	
				4. Record receipts and expenditures in the Missouri Farm Business Record Book (D004)	
				5. Complete additional records in the Missouri Farm Business Record Book (D005)	
				6. Complete the forms necessary to summarize the	

				Missouri Farm Business Record Book (D006)	
				7. Analyze the farm business using the Missouri Farm Business Record Book (D007)	
				Other:	